R.F./R.S. XCVR

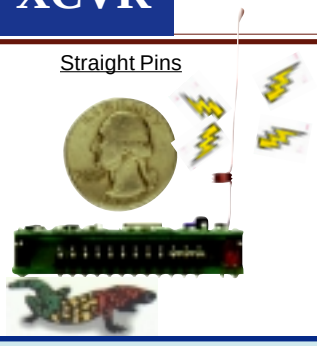
PRELIMINARY INFORMATION

New! *Low Cost* R.F. & R.S. TRANSCEIVER NAKED FOR OEMS

TRANSMITS & RECEIVES WIRELESS & WIRED (RS232C/485/TTL) DATA

Model TR200

Straight Pins



Right Angle Pins

ACTUAL SIZE

With DB9F Connector

IF YOU DON'T SEE IT, ASK FOR IT!

OTEK 's smallest commercial wireless (RF) & wired (RS) transceiver is now available for OEMs to succeed in the wireless market. Its low cost & high reliability (lowest component count) will give you an opportunity to develop your product into the market quickly.

You can use the new ***TR200*** as PC to PC, PC to PLC, SCADA DCS and instrument to instrument in many branches of the industry, such as biochemical, Pharmaceutical, Agriculture Environmental, Security, Pulp & Paper, Transportation, Telemetry and many more!

The ***TR200*** comes complete and ready to work. It accepts RS-232C/RS485 or TTL & converts the data to RF at 916.5MHz (ISM band FCC 15). Receives the RF to convert it back to RS/TTL. Since only 3 pins are used for communication with your PC (RX, TX & GND), the remaining 6 pins are used for address selection and power. For **"Plug-N-Play"** and **"Direct to PC",** see the ***TR300,*** housed in a "DB9" plastic case.

EVALUATION KITS:

The ***TR200*** Series is available in evaluation kits (2ea.) & in several configurations. We have even included a "DB9" connector, so you can plug it right into your PC's port (external 5VDC power required). The TR200 is also available with power input of 8-25VDC. For Production Models, substitute the "EK" with "TR" prefix & contact OTEK for pricing. If none of them meet your needs, please contact OTEK with your requirements.

They come complete with the built-in antenna and no license is required from FCC since they have already been licensed, unless you are to change the antenna, in which case, you would be required to apply for your own ID# (See FCC CFR 47, parts 2 & 15.249).

Visa & MC Accepted

EVALUATION KITS ORDERING: (2 each)

Eight models are presently available (more to come)

- *EK200 : RS-232C & 5VDC Power With P.C. Pins* $250
- *EK201: RS-232C & 8-25VDC Power With P.C. Pins* $270
- *EK202: RS-485 & 5VDC Power With P.C. Pins* $250
- *EK203: RS-485 & 8-25VDC Power With P.C. Pins* $270
- *EK204 : TTL Levels I/O & 5VDC With P.C. Pins* $250
- *EK205: TTL Levels I/O & 28VDC With P.C. Pins* $270
- *EK206: RS-232C I/O & DB9 Connector & 5VDC Power* $270
- *EK207: RS-485C I/O & DB9 Connector & 5VDC Power* $290

Contact OTEK for LOW OEM price

SPECIFICATIONS @25°C& 5VDC:

Limited Lifetime Warranted!

R.F. Section:

Operating Frequency 916.5MHz
..... ±0.2MHz
Data Rate (R.F.)..... OOK:19.2KB;
Max. Peak Transmit Power .... 1 mW
Receiver's Gain 100dB
Auto Transmission ..... 32 Char.
Indoor/Outdoor Range .....100/300 ft.

R.S. Section:

RS-232C/485/TTL 19.2Kbps
TTL/CMOS .....1 Load
Characters ..... Any
Handshake ..... None Required
Settings 8N1

Overall Specs:

Voltage Input ....5VDC±5%, or
.....8-25VDC,20mVRMS
..... Max. Noise
Transmit Current 20mA
Receive Current 10mA
Max# of Nodes 15
Sleep Current 2mA
Operating Temperature .-20 to +75°C
Size... 1.85x0.90x0.4" (47x23x10mm)
Mounting.. ..... 10 Pins Horizontal,
..... or DB9 (Vertical on Request)

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Simple Instructions for Models:

TR200, TR300 & TR400

Wireless (R.F.) to Wired (R.S.) Transceivers

A) Required Items:

1. PC with MS-Dos 5.0 or Higher (Windows Soon)
2. Serial Cable DB9F to DB9M
3. Power Source for TR200 & TR400 (Included with TR300)
4. Minimum of Two(2) Transceivers

1. Install the PC software (Included) on your hard disk via the "a" drive (3½"):

a) CD\<E>;
b) MD otektr <E>;
c) Copy A:*.* C:\otektr<E> (above step on each terminal).

The "TR" series has been set for "8N1" (8bit, no parity, 1 stop bit) and 19,200 baud.

Warning: Only connect pins 2 (TXD), 3(RXD) and 5 (GND) to your PC!

2. Prepare your "Master" "TR", connect serial cable and set address to "1" and apply power.

3. Type C:\otektr<E>

a) Your PC will show the"Dialog" screen (see Fig.1)
b) Press "Alt+H" (Help Menu) (see Fig.2) and familiarize yourself with the commands.
c) Press "Alt+A" to verify the connected unit's address, always reset after changing address.

Note: Do Not type any messages yet, if the other units are not connected.

4. Now repeat steps 1-3 on all nodes, but make sure to assign different address to each one. See table I (Address Code).

5. Now your are ready to test the Wireless links.

a) Locate the "Slave" on the preferred location and on the ***TR300 & TR400***, press the "Test" (range finder) switch momentarily, on the ***TR200*** pulse the test pin to 5 (Gnd). The unit will send a wireless test signal to the "Master" (add#1) and if within R.F. range will receive the "Received" acknowledgment blinking once (fast) its LED.
If OK, install the"TR" on its permanent location.
b) If NOT, move away from obstructions/interferences and repeat Step a.
c) Once Step 5 (test) is satisfied, you can begin the "Wireless" communication, either short message+<E> or automatically (32+ characters).

6. Broadcast Mode (Alt+B<E>): The message is sent to all units within RF range (no acknowledgment is required).

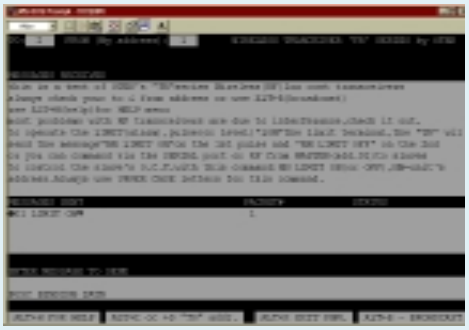
7. ***Alarm*** I/O (***TR200*** & ***TR400*** only): A TTL compatible negative pulse at Pin 11 of the connector (not DB9) will command the unit to transmit the message "***Alarm On NN***" (NN=units address) and turn"ON" its open collector transistor (OCT) at Pin 12, for as long as its input is "Low". In addition, any node (unit) can command the specific addressed unit to turn "ON" its OCT by typing the message "***Limit On***" <E> (check the "To" address before sending or use the Broadcast (Alt+B) to command all units to turn on their OCT), to reset type "***Limit Off***" <E>. The sending unit's own OCT will **NOT** be affected by this wireless command.

8. Your Comments Please! To:

support@otekcorp.com

Thank you!

DIALOG SCREEN



<KEY> HELP MENU

<DEL> Deletes Line.
<BACKSPACE> Deletes Character to left
<ENTER> At start of line sends last message.
<ALT>+<C> Clears screen
<ESC> Resets "SEND PACKET" Mode.
<ALT>+<S> Invokes set up program.
<ALT>+<X> Returns to system.
<ALT>+<I> Increments "TO" address.
<ALT>+<D> Decrements "TO" address
<ALT>+<B> Broadcast i.e. send message to all "TR" units.
<ALT>+<T> Test "TR" unit to perform selftest,Reset (Alt+R)
<ALT>+<R> Reset "TR" unit to start over (warm boot).
<ALT>+<A> Read "TR" address.
<F1> To send a full buffer
<CTRL>+<T> For Telemetry.
<CTRL>+<N> To change Node address.

PIN #	DB9	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10	6		X		X		X		X		X		X		X	
9	7			X	X			X	X			X	X			X
8	8					X	X	X	X					X	X	X
7	9									X	X	X	X	X	X	X
1	4	= TEST, PULSE TO GND (#5) TO TEST TRANSMISSION RANGE														
2	2	= TXD, CONNECT TO PC s RXD (PIN 3 ON PC s DB9 CONNECTOR)														
3	3	= RXD, CONNECT TO PC s TXD (PIN 2 ON PC s DB9 CONNECTOR)														
4	1	= +5VDC INPUT (OUTPUT IF 8-25VDC POWERED)														
5	5	= GROUND FOR POWER & SIGNAL (PIN 5 ON PC s DB9 CONNECTOR)														
6		= RESERVED FOR CUSTOM UNITS WITH 8-25VDC POWER INPUT														
11		= ALARM INPUT. PULSE TO GROUND TO ACTIVATE														
12		= ALARM OUTPUT. (30V / 20mA SINK MAX.)														

NOTES: 1. X = Switch ON or Pin Grounded For Selected Address
2. ALWAYS RESET UNIT AFTER PERFORMING AN ADDRESS CHANGE

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